

REMARKS

The Office Action of May 1, 2007 has been received and carefully reviewed. It is submitted that, by this Amendment, all bases of rejection are traversed and overcome. Claims 7-23 are currently pending in the application. Claims 1-6 have been withdrawn. In light of the following, reconsideration is respectfully requested.

Claims 7-23 stand rejected under 35 USC § 103(a), as being unpatentable over Robertson et al. (US Patent No. 5,487,378).

Applicants respectfully request that this § 103(a) rejection be withdrawn for the following reasons.

The application claims methods and devices related, in one of its embodiments, to a method of generating droplets comprising: a) providing a supply of liquid; b) filling chambers with some of the liquid; c) instantaneously heating the liquid in the chambers by an amount sufficient to produce a vapor bubble in each chamber for d) propelling from each chamber droplets of the liquid wherein each droplet has a volume of less than 100 femtoliters.

In another related embodiment, the application claims an inhaler, comprising: a) a body including a mouthpiece; b) a supply of liquid carried in the body; c) a drop generator head mounted to the body in fluid communication with the liquid and having a plurality of chambers therein, each chamber receiving some of the liquid and opening to surrounding air; and d) a plurality of heat transducers, one heat transducer residing in each chamber and controllable for instantaneously heating the liquid in the chamber by an amount sufficient to produce a vapor bubble in the chamber for propelling the liquid from the chamber in the form of droplets, each droplet having a volume of less than 100 femtoliters, thereby to facilitate aerosol delivery of the droplets to the alveoli of a user of the mouthpiece.

In contrast, Robertson discloses an inhaler with an aerosol generator which includes a chamber for the liquid medicament and a nozzle arrangement having a plurality of orifices, with means provided for cyclically pressurizing, not heating, the liquid medicament in the chamber such that liquid from the chamber is periodically

expelled through the orifices of the nozzle arrangement as atomizer droplets of liquid medicament.

In the current Office Action, the Examiner makes the comment that “Robertson further teaches a plurality of heat transducer (fig. 4a, 58, 60)...” Later in the Office Action, the Examiner states that “one heat transducer ...controlled for instantaneously heating the medicinal liquid (col.2, lines 60-65). The applicants respectfully disagree with these comments. Nothing in the Robertson specification talks about “heat transducers” or “heating the medicinal liquid”. The two places the examiner cites above both relate to pressurization of liquid, **not** heating liquid.

Indeed, rather than using a heat transducer to heat the liquid, as in the present application, Robertson pressurizes the liquid with a piezo-electric element. Using heat on liquid to generate small drops is clearly different than using pressure on liquid to generate small drops. There is no reason to believe that a result achieved by the use of heat would be the same as the use of pressure. Further, there is nothing to indicate from Robertson that using Robertson’s method would achieve the claimed volume of less than 100 femtoliters for the drops, which is recited in, for example, Applicants’ independent claims 7 and 17.

In the field of inkjet printing, which is closely related to the technology of the present application, one skilled in the art knows that the process of thermal inkjet (TIJ) printing and the process of piezoelectric inkjet (PIJ) printing are not analogous. Results achieved in TIJ generally cannot easily be repeated in PIJ, and vice versa. One skilled in the art knows that the two different techniques are generally not interchangeable, and would therefore not find that Robertson suggested or predicted the applicants’ application as it is presently claimed.

For the above reasons, applicants respectfully request that the § 103(a) rejections be withdrawn.

In summary, claims 7-23 are currently pending in the application. It is submitted that, through this Amendment, Applicants’ invention as set forth in the

claims is now in a condition suitable for allowance, notification of which is respectfully requested.

Further and favorable consideration is requested. If the Examiner believes it would expedite prosecution of the above-identified application, the Examiner is cordially invited to contact Applicants' Attorney at the below-listed telephone number.

Respectfully submitted,

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